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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/709,550

05/13/2004

Chao-Ho Chen

MCCP0006USA

3549

27765

7590

02/23/2006

NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION  
P.O. BOX 506  
MERRIFIELD, VA 22116

EXAMINER

HUNNINGS, TRAVIS R

ART UNIT

PAPER NUMBER

2632

DATE MAILED: 02/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/709,550		CHEN ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Travis R. Hunnings		2632	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 January 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4-10,12,13,15-18 and 20-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-8,16-18 and 20 is/are allowed.
- 6) ☒ Claim(s) 1,5,9 and 13 is/are rejected.
- 7) ☒ Claim(s) 2,4,10,12,15 and 21-24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by King et al. (King; US Patent Application Publication 2003/0044042).

Regarding claim 1, King discloses *Method And Apparatus Of Detecting Fire By Flame Imaging* that has the following claimed limitations:

The claimed step of capturing a plurality of images of the predetermined area during an interval for generating a plurality of difference frames is met by the step of collecting first frames, specifically base and comparison frames (paragraph 199);

The claimed step of detecting a number of pixels that have fire characteristics in each difference frame by determining if each pixel of each difference frame satisfies the relationship  $R > R_t$  where  $R$  is a value of a red component of the pixel and  $R_t$  is a threshold of the red component is met by the individual pixels are assembled into pairs and are compared using the difference in red chrominance (paragraphs 199 – 218);

The claimed step of indicating that a flame in the predetermined area has substantially increased and outputting an early fire alarm is met by the alarm signal being issued when fire is determined to be present (paragraph 36).

Regarding claim 9, the claim is interpreted and rejected as claim 1 stated above.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over King.

Regarding claim 15, (for lacking criticality) as long as the circuitry performing it's desired functionality, it would have been obvious to one of ordinary skill in the art to use any form of microprocessor containing programming code to carry out the disclosed processing operations.

5. Claims 5 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over King in view of Kuno et al. (Kuno; US Patent 5,243,418).

Regarding claim 5, King discloses all of the claimed limitations except for the claimed step of removing noise from the difference frame for generating a difference frame. Kuno discloses *Display Monitoring System For Detecting And Tracking An Intruder In A Monitor Area* that teaches removing noise components that are captured through a video camera in order to eliminate spurious changes due to environmental variations (column 3, lines 34-43). Removing environmental noise from the frames that are used to detect the fire in King would make the system more reliable and reduce false alarms that would be caused by that noise. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by King according to the teachings of Kuno to remove noise from the frames.

Regarding claim 13, the claim is interpreted and rejected as claim 5 stated above.

***Allowable Subject Matter***

6. Claims 6-8, 16-18 and 20 are allowed.
7. Claims 2, 4, 10, 12, 15 and 21-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

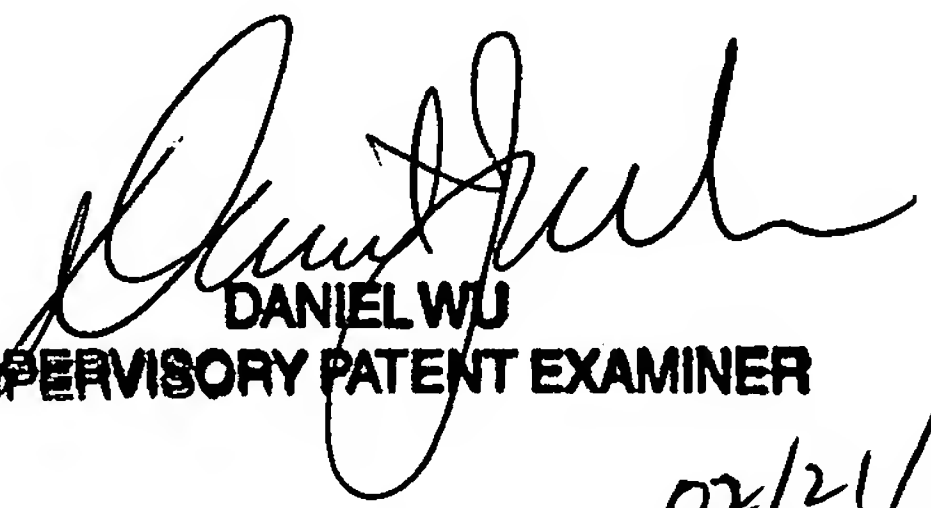
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Travis R. Hunnings whose telephone number is (571) 272-3118. The examiner can normally be reached on 8:00 am - 5:00 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel J. Wu can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2632

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TRH

  
DANIEL WU  
SUPERVISORY PATENT EXAMINER  
02/21/06